

I claim:

1. An integrated welder comprising:

a. a housing that at least partially contains an internal combustion engine and an electric current generator, said electric current generator at least partially connected to said internal combustion engine to be at least partially driven thereby; and,

5 b. an exhaust gas separator at least partially connected to said internal combustion engine to at least partially receive exhaust gas generated by said internal combustion engine, said exhaust gas separator at least partially separating a shielding gas from said exhaust gas to at least partially be used as a shielding gas for an arc welding procedure.

2. The welder as defined in claim 1, wherein said exhaust gas separator is at least partially housed in said housing.

3. The welder as defined in claim 1, wherein said exhaust gas separator is at least partially powered by the current generated by said electric current generator.

4. The welder as defined in claim 3, including an electric circuit that controls power to said exhaust gas separator.

5. The welder as defined in claim 1, wherein said exhaust gas separator at least partially separates liquids from said exhaust gas.

6. The welder as defined in claim 5, wherein said exhaust gas separator includes a condenser.

7. The welder as defined in claim 1, wherein said exhaust gas separator includes a gas filter.

8. The welder as defined in claim 1, wherein said shielding gas includes at least a majority of carbon dioxide.

9. The welder as defined in claim 1, including a gas compressor to at least partially compress said shielding gas from said exhaust gas separator.

10. The welder as defined in claim 9, wherein said gas compressor is at least partially powered by the current generated by said electric current generator.

11. The welder as defined in claim 10, including an electric circuit that controls power to said electric current generator.

12. The welder as defined in claim 9, including a gas cylinder fluidly connected to said air compressor.

13. The welder as defined in claim 12, including a pressure monitor to monitor a pressure in said gas cylinder to generate a control signal to activate or deactivate said air compressor based at least partially on a detected air pressure level in said gas cylinder.

14. The welder as defined in claim 1, wherein said housing includes wheels to enable said housing to be rolled over a ground surface.

15. The welder as defined in claim 1, including a welding circuit that is designed to provide sufficient voltage and current to a workpiece to cause an electric arc to form between a consumable electrode and said workpiece, said welding circuit at least partially controlling at least one welding parameter between said consumable electrode and said workpiece, said welding parameter includes a parameter selected from the group consisting of voltage, current, energy, power, polarity, current wave form, and combinations thereof.

16. The welder as defined in claim 15, wherein said consumable electrode is a consumable flux cored metal electrode.

17. An exhaust gas separator designed to be connected to an exhaust of an internal

combustion engine comprising:

- a. a liquid separating mechanism designed to remove a majority of water and water vapor from an exhaust gas generated by the internal combustion engine; and,
- b. a gas separating mechanism to separate a majority of a arc welding shielding gas from the exhaust gas, said arc welding shielding gas including a gas selected from the group consisting of carbon dioxide, carbon monoxide and combinations thereof.

18. The exhaust gas separator as defined in claim 17, wherein said exhaust gas separator is releasably connectable to the internal combustion engine.

19. The exhaust gas separator as defined in claim 17, wherein said liquid separating mechanism includes a condenser, a dehumidifier, coalescing filters, particulate filters, and combinations thereof.

20. The exhaust gas separator as defined in claim 17, wherein said gas separating mechanism includes a gas filter, a scrubber, a gas absorber, a gas adsorber, and combinations thereof.

21. The exhaust gas separator as defined in claim 17, including a gas compressor to at least partially compress said shielding gas.

22. A method of generating a shielding gas for use in an arc welding process from an exhaust gas of an internal combustion engine comprising:

- a. providing an exhaust gas from an internal combustion engine;
- b. providing a gas and liquid separator and removing at least a majority of water and water vapor from said exhaust gas; and,
- c. separating at least a majority of said shielding gas from said exhaust gas, said shielding gas including a gas selected from the group consisting of carbon dioxide, carbon monoxide and mixtures thereof.

23. The method as defined in claim 22, including the step of compressing said shielding

gas.

24. The method as defined in claim 22, wherein said internal combustion engine and said gas and liquid separator are components of an engine welder.